

Long Term Potentiation (LTP)

- Enhancement of synaptic connection between neurons or within a neuronal network.
- Ultimately leads to alteration in the physical structure of neurons and networks (plasticity) although the time course is unknown.
- Cellular basis of learning and memory
- Replaced the old notion that memory was related to new neuronal growth

The Brain and Memory in Normal Aging

The Nelson Nine

Top Memory Complaints

Namnesia



**Hi. I'm, I'm, I'm..... You'll have to forgive me.
I'm terrible with names.**

Wordmnesia

THIS MODERN WORLD by TOM TOMORROW

UH OH! LOOKS LIKE *BILL'S* BEEN FORGETTING TO
TAKE HIS *MEMORY ENHANCEMENT PILLS!*

DRAT! WHAT WAS I GOING TO SAY?!

IT WAS RIGHT ON
THE TIP OF MY...

MY...

YOU KNOW, THAT *THING* IN MY MOUTH...



Roomnesia



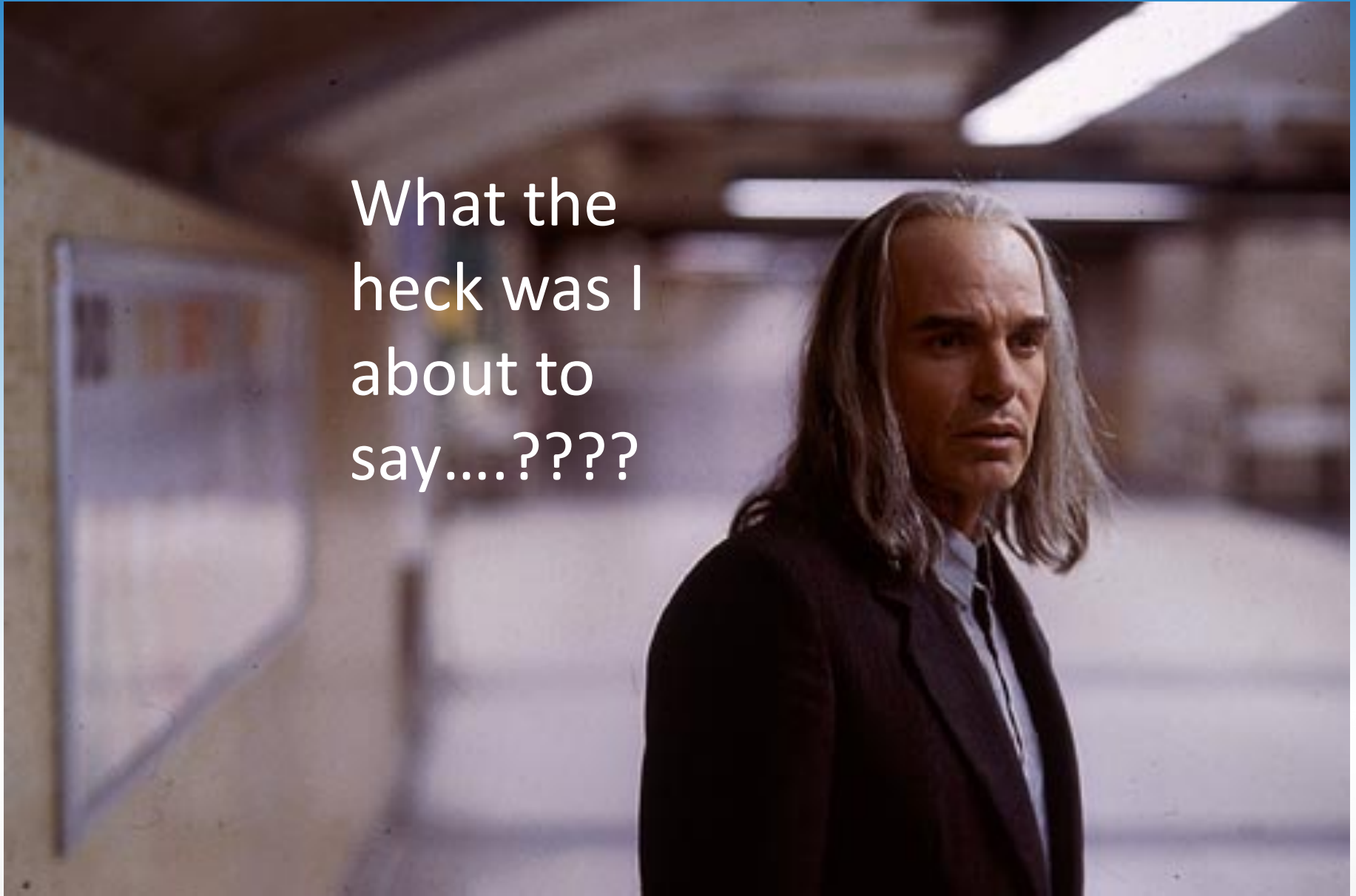
Now why did I
come in here?

I lose track of my stuff



Episodic Fleeting Thought Syndrome (EFTS)

What the
heck was I
about to
say....????



Serial Shopping Syndrome



10:12 AM can of peas



10:47 AM bread



11:55 AM quart of milk



1:07 PM cat food



2:23 PM salad dressing



2:54 PM potatoes

Parkingnesia

(Shopping Mall Type)



I think it was in Section GG-17... or was it DD-71?

Paroxysmal A-Navigationalism



I'm getting the feeling we missed the exit for Providence

Oblivious Netflix Re-Rentalism

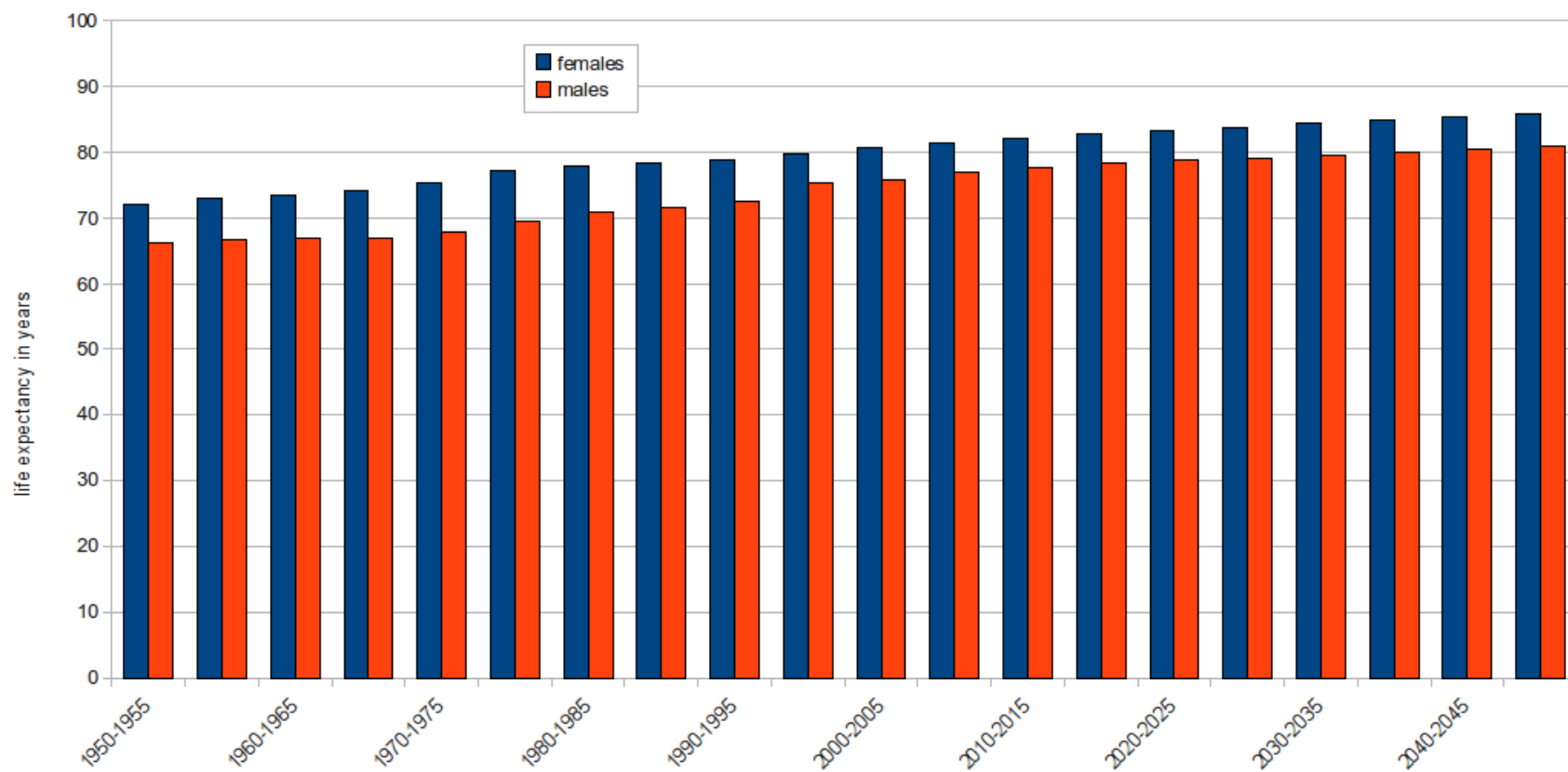
- Browsing NETFLIX cue: Hmmm, this looks like it could be good.
- 20 minutes: This movie seems vaguely familiar – I must have seen the trailer on YouTube.
- 45 minutes: Déjà vu – I feel like I know exactly what's going to happen next!
- Realization: Damn! I rented this movie 2 weeks ago! But I forget how it ends – so what the heck
- 3 weeks later (browsing NETFLIX): Hmmm – this looks like it could be a good flick.
- Aaaaaand... Here we go again!

Normal

The American Heritage® Dictionary of the English Language, Fourth Edition

1. Conforming with, adhering to, or constituting a norm, standard, pattern, level, or type; typical
2. Functioning or occurring in a natural way; lacking observable abnormalities or deficiencies.

Life Expectancy at Birth for Males and Females in the US, 1950-2050.

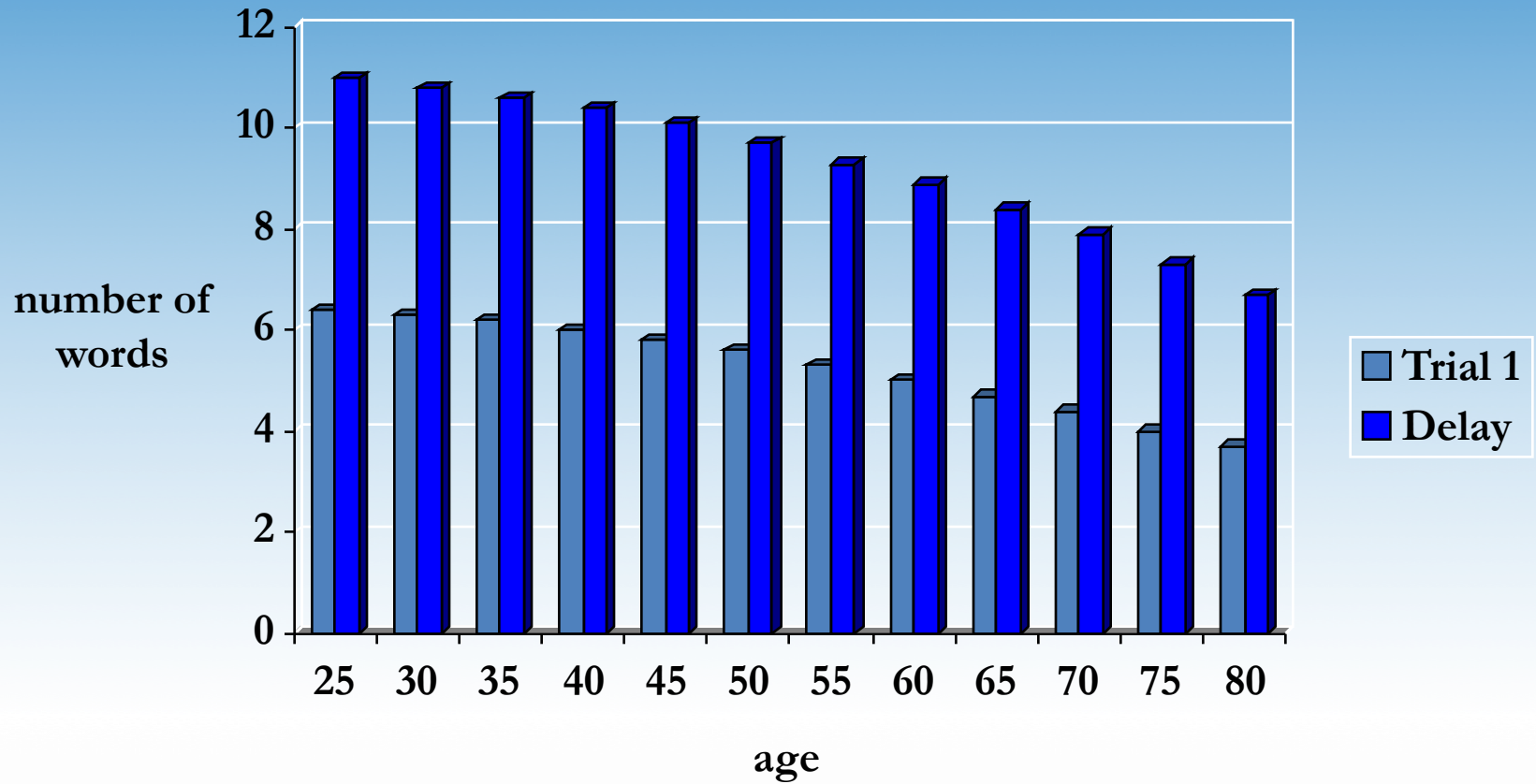


Source: UN World Population Prospects, 2008.

RAVLT Normative Data

(Males, average education)

Van der Elst et al, JINS, 2005



Look familiar?

- High Blood Pressure
- Hyperlipidemia (high cholesterol)
- Coronary Artery Disease (CAD)
- Obstructive Sleep Apnea (OSA)
- Insomnia
- Type-II Diabetes (AODM)
- Gastroesophageal Reflux Disease (GERD)
- Myocardial Infarction (heart attack)
- Osteoarthritis
- Joint Replacement (hip, knee, shoulder)

How about this?

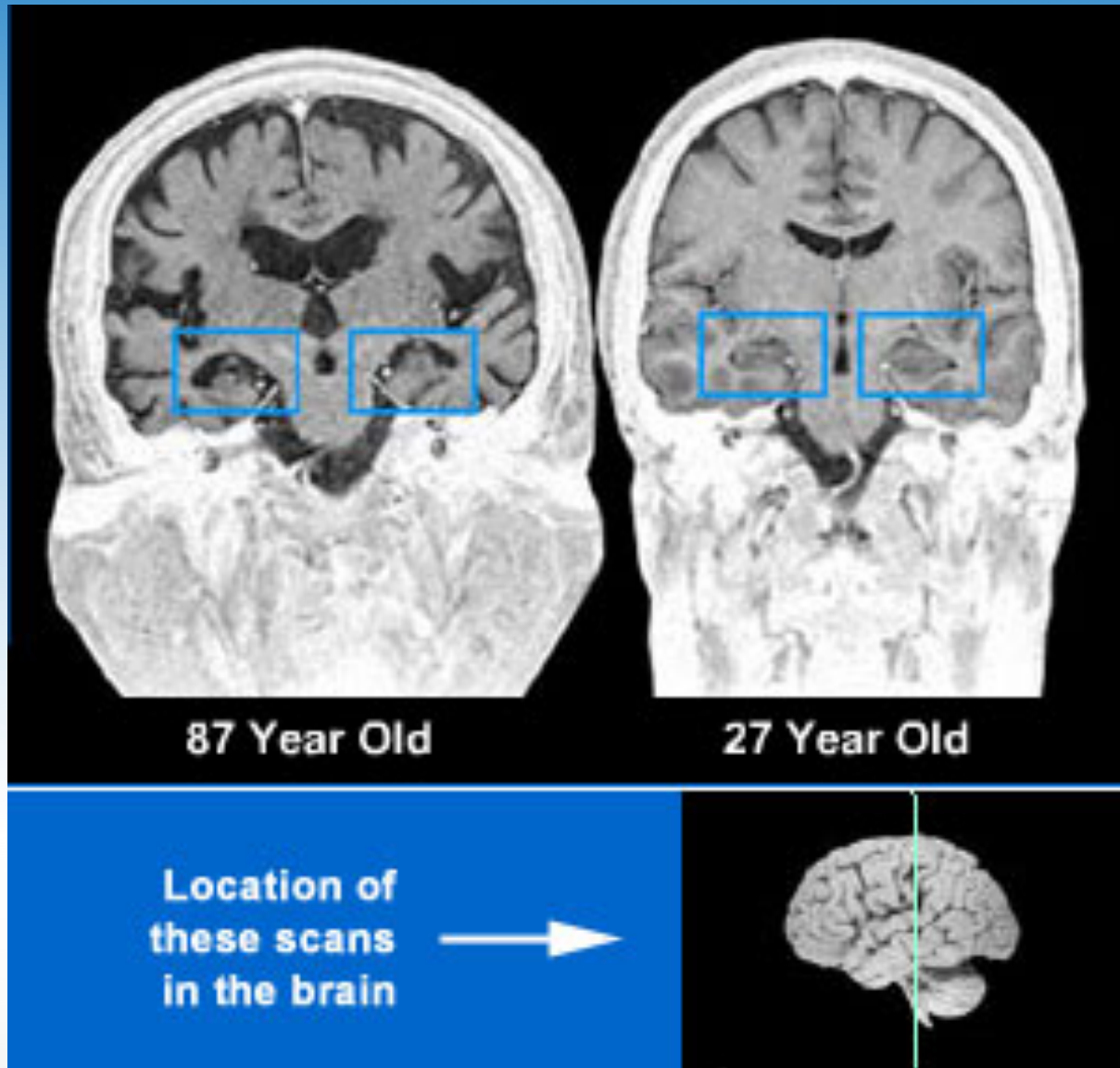
- Hydrocodone
- Simvastatin (Zocor)
- Lisinopril (Prinivil, Zestril)
- Synthroid (levothyroxine)
- Norvasc (amlodipine)
- Prilosec (Omeprazole)
- Azithromycin (Z-Pak)
- Amoxicillin
- Glucophage (metformin)
- Hydrochlorothiazide
- Sleep Medicines (Ambien, Lunesta, Sonata)
- SSRI antidepressants (Prozac, Celexa, Zoloft)

A still from the movie 'The Shrinkage' showing a man from behind, shirtless, and a woman in a doorway looking shocked. The man is on the left, and the woman is on the right. The background has floral wallpaper and a wooden door.

I was in the pool!

Shrinkage!

Oregon Brain Aging Study



Cerebrovascular disease

- Disease of the blood vessels and, especially, the arteries that supply the brain
- Usually caused by atherosclerosis (deposition of fatty plaques on interior vessel walls)
- Can lead to stroke